

1155-11-74

Carrie E. Finch-Smith* (finchc@wlu.edu), Washington and Lee University, Mathematics Department, 204 W. Washington St., Lexington, VA 24416. *Riesel numbers and Sierpiński numbers.*

In 1956, Hans Riesel showed that 509203 has an interesting property - for all $n \in \mathbb{N}$, the integer $509203 \cdot 2^n - 1$ is composite. Furthermore, he showed that there are infinitely many integers with this property. In honor of Riesel's work, an odd positive integer k with the property that $k \cdot 2^n - 1$ is composite for all natural numbers n is known as a Riesel number. Riesel's work showed that there are infinitely many Riesel numbers. A few years later, Waclaw Sierpiński proved a similar result for positive integers k where $k \cdot 2^n + 1$ is composite for all n , and these integers are known as Sierpiński numbers. In this talk, we give an overview of known results and some new results about these interesting sets of numbers, focusing in particular on the intersection of these sets with other interesting integer sequences. (Received December 18, 2019)